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<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		<b>Docket Number (Optional)</b> H0005096	
<p>I hereby certify that this correspondence is being transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (571) 273-8300.</p> <p>Signature <u>Mark A. Kupanoff</u> Mark A. Kupanoff</p> <p>Date <u>December 22, 2006</u></p>		In re Application of <u>Wallace T. Van Winkle</u>	
		Application Number <u>10/696,917</u>	Filed <u>October 29, 2003</u>
		For: <b>CARGO SMOKE DETECTOR AND RELATED METHOD FOR REDUCING FALSE DETECTS</b>	
		Group Art Unit <u>2612</u>	Examiner: J.B. Lieu
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s).</p> <p>Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <p><input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.37(b) is enclosed (Form PTO/SB/96)</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration number <u>55,349</u></p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____</p> <p>Signature <u>Mark A. Kupanoff</u> Mark A. Kupanoff (480) 385-5060</p> <p>Date <u>12/22/06</u></p> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.</p>			

☒ Total of 1 forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AP, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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Appl. No.	: 10/696,917	Confirmation No. 2612
Applicant	: Wallace T. VAN WINKLE	
Filed	: October 29, 2003	
TC/A.U.	: 2612	
Examiner	: J.B. Lieu	
Docket No.	: H0005096	
Customer No.	: 000128	

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**ARGUMENTS ACCOMPANYING PRE-APPEAL BRIEF REQUEST FOR REVIEW****I. Status of Claims**

Claims 1-5 and 7-16 are pending in this application, with claims 1 and 12 being the independent Claims. All amendments to the claims have been entered. In general, the claimed invention is directed toward the detection of smoke using multiple sets of components.

**II. Rejections under 35 U.S.C. § 103**

In the final Office Action dated August 22, 2006, the Examiner rejected claims 1-5, 7, 8, and 12-15 as allegedly being unpatentable over U.S. Patent No. 4,857,895 ("Kaprelian") in view of U.S. Patent No. 6,326,897 ("Kadwell"). In this office action, the Examiner stated that Kaprelian discloses a method for reducing false detects comprising emitting an infrared light beam from a primary emitter 24 to a primary monitor detector 26, detecting a portion of the first infrared light beam, measuring a first voltage value using a primary receive detector 26, detecting a portion of the second infrared light beam with a secondary receive detector 28, and measuring the second voltage. The Examiner also stated that Kaprelian fails to disclose setting primary and secondary alarm flags, but it would have been obvious to one skilled in the art, as technology advances, to use a controller and a computer program to provide an

alarm status signal as taught in Kadwell. The Examiner also rejected claims 9, 10, and 16 as allegedly being unpatentable over Kaprelian, Kadwell, and U.S. Patent No. 4,401,478 ("Solomon").

In the response to the final Office Action dated October 23, 2006, Applicant disagreed and argued that the pending claims (i.e., claims 1 and 12) were patentably distinct over the cited Kaprelian and Kadwell. Specifically, Applicant argued that Kaprelian and Kadwell do not teach or suggest detecting a second portion of scattered light from the primary emitter with a secondary receive detector that is associated with a secondary emitter and a secondary monitor detector. That is, Claims 1 and 12 describe methods utilizing two sets of components.

In response to Applicant's arguments, the Examiner issued an advisory action dated November 24, 2006. In this advisory action, the Examiner maintained the previous rejections, stating that Kaprelian teaches two sets of components: 24, 26 and 44, 28. The Examiner also stated that the second photodiode receives scattered light from the light emitters, the second receive detector 28 is associated with the secondary light emitter 44, and the second receive detector also detects a portion of scattered light from the primary emitter 24.

### **III. Arguments**

Applicant again respectfully disagrees and submits that the pending claims are patentably distinct over Kaprelian and Kadwell. Claim 1 and 12 include detecting a second portion of scattered light from the primary emitter with a secondary receive detector that is associated with a secondary emitter and a secondary monitor detector. That is, Claims 1 and 12 describe methods utilizing two sets of components. The first set of components includes a primary emitter, a primary monitor detector, and a primary receive detector. The second set of components includes a secondary emitter, a secondary monitor detector, and a secondary receive detector. Claims 1 and 12 include utilizing the second receive detector, associated with the second emitter and monitor, to capture a portion of the light scattered by the at least one of air and smoke *in addition to* capturing a portion of the light with the first receive detector that is associated with the first emitter and monitor. Specifically, Claim 1 includes the limitation "detecting a second portion of the infrared light beam scattered by the at least one of air and smoke with a secondary receive detector, the secondary receive detector being

associated with a secondary emitter and a secondary monitor detector.” Claim 12 includes the limitation “receiving a second portion of the light using a second receive detector, the second portion of the light having been scattered by the at least one of the air and smoke, the second receive detector being directed at a line intersecting a second emitter and a second monitor detector.” Thus, the invention as claimed recites two transmitters and four detectors.

Kaprelian teaches a smoke detector which incorporates the features and functions of both light obscuration detection and light absorption detection (col.2, lines 41-45). As illustrated in Figure 1, the body 10 of the smoke detector comprises a base 12 and a series of segmented outer walls 14 and a series of segmented inner walls 16, which are preferably molded from a black and integral with a base 12. The walls 14 and 16 are formed and arranged to allow the ingress of smoke to a smoke chamber 18 while blocking the entrance of ambient light. (col. 3, lines 16-26) Within the smoke chamber 18 is a concave mirror 20, a light emitting diode 24 on one side of the mirror’s optical axis 22, and a photodiode 26 on the opposite side of the optical access 22. (col. 3, lines 28-45) Light from the light emitting diode 24 is focused onto the photodiode 26 by the mirror. A second photodiode 28 is located on the one side of the smoke chamber 18. The second photodiode 28 receives scattered light from smoke within the smoke chamber 18 (col. 3, lines 50-54). In the embodiment shown in Figure 2, a second light emitting diode 44 is provided to increase, by virtue of a higher level of light in the smoke chamber 18, its responsiveness to the presence of smoke (col. 4, lines 32-37).

Thus, Kaprelian discloses a first light emitting diode 24, a second light emitting diode 44, a first photodiode 26, and a second photodiodes 28. Thus, Kaprelian discloses the use of two transmitters, but only two detectors. Even if it is assumed that Kaprelian teaches first and second sets of components, as argued by the Examiner, and the first set of components includes the first light emitting diode 24 and the first photodiode 26, while the second set of components includes the second light emitting diode 44 and the second photodiode 28, Kaprelian simply does not include all of the components found in the currently pending claims. For example, if the light emitting diodes 24 and 44 are equated with the primary (or first) emitter and the secondary (or second) emitter, the first photodiode 26 is equated with a monitor detector, and the second photodiode is equated with a receive detector, Kaprelian does not disclose the second monitor detector or the second receive detector.

As such, Kaprelian makes no mention of detecting a portion of the light emitted from the first emitter to the first monitor detector after being scattered by the air/smoke with a first receive detector and a second receive detector that is associated with a second emitter and a second monitor detector. Specifically, Kaprelian does not disclose detecting a second portion of scattered light from the primary emitter with a secondary receive detector that is associated with a secondary emitter and a secondary monitor detector.

Kadwell discloses a smoke detector including a housing defining a dark chamber admitting test with a light receiver disposed therein (Abstract). A scatter emitter is positioned within the chamber such that a light strikes the receiver when reflected off particles suspended in the test atmosphere (Abstract). As illustrated in Figure 10, the second receiver is positioned such that light 142 from the obscuration emitter 38 travels along an isolated path different from light 40. The isolated path is free from smoke in the test atmosphere 24. (col. 13, line 55 – 60) this may be accomplished by producing a sealed cavity in the housing 144 between the obscuration emitter 38 and receiver 140 by inserting a light pipe between the obscuration emitter 38 and the receiver 140. (col. 13, lines 61-63) Kadwell makes no mention of a second set of components, particularly a second receive detector. Specifically, Kadwell does not disclose detecting a second portion of scattered light from the primary emitter with a secondary receive detector that is associated with a secondary emitter and a secondary monitor detector.

With regard to the specific allegations made by the Examiner in the advisory action, in the final Office Action, the Examiner stated that Kaprelian discloses a method comprising “emitting an infrared light beam from a primary emitter 24 to a primary monitor detector 26; detecting a portion of the first infrared light beam; measuring a voltage value using a primary receive detector 26; detecting a portion of the second infrared light beam with a secondary receive detector 28; and measuring the second voltage value.” Even if the Examiner’s allegation is assumed to be true, the Examiner fails to mention the second emitter and the second monitor detector. Additionally, the Examiner appears to be using the same component, the first photodiode 26, for both the primary monitor detector 26 and the primary receive detector 26.

Thus, Applicant submits that independent claims 1 and 12 are patentable over Kaprelian

and Kadwell. Additionally, as dependent claims 2-5, 7, and 13-15 depend from, and include all the limitations of their respective independent claims, they are also submitted to be patentably distinct over the cited references.

Furthermore, independent claim 12 and the dependent claims are submitted to include many other features not found in the cited references. For example, regarding claims 2 and 12, Applicant cannot find any teaching in Kaprelian and Kadwell of having the secondary (or second) receive detector being directed at a line interconnecting the secondary (or second) emitter and the secondary (or second) monitor detector.

It should also be noted that Solomon does not teach or suggest detecting a second portion of scattered light from the primary emitter with a secondary receive detector that is associated with a secondary emitter and a secondary monitor detector.

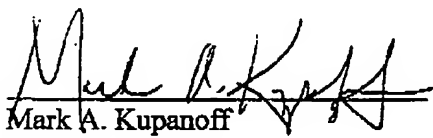
### III. Conclusion

In view of the foregoing, it is submitted that the Examiner's reliance upon Kaprelian and Kadwell does not support rejection of claims and that the above-noted rejections should be withdrawn. Hence, Applicant requests that the reviewing panel find that the present application is in condition for allowance.

Respectfully submitted,

INGRASSIA FISHER & LORENZ

Dated: December 22, 2006

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